Technology Information Summary

March 2009

identiFINDER™

At a Glance

CAPABILITIES		FIELD CONSIDERATIONS	INFORMATION
Technology Category:	**Applications:**	☒ Weighs <10 lb	**Information Sources:**
☒ Detection	☐ Water security	☒ Batteries	☐ No vendor response
☐ Decontamination	☒ Building structures	☐ AC current	☐ General info only
☐ Sampling	☒ Building materials	☐ Explosive atmosphere operation	☒ Vendor-supplied info
Targets:	☒ Air	☒ Novice operator	☐ 3rd party test data
☐ Biological agents		☐ Skilled operator	**Information Provided:**
☐ Chemical agents		☒ Audible alarm	☒ General product
☐ Toxic industrial chemicals		☒ Visible alarm	☒ Performance
☒ Radiological agents			☒ Cost

OVERVIEW OF TECHNOLOGY

The identiFINDER™ is a hand-held, battery-operated radiation detection and radionuclide identification instrument. It is designed to detect and identify naturally occurring radioactive materials as well as industrial, medical and special nuclear material radionuclides to provide radiation security to first responders, customs officers, power plant workers, etc., to detect, measure and identify sources of gamma radiation. The identiFINDER™ will alert the user with audible, tactile, or visual alarms that radiation has been detected. When the user pushes a button, the unit acquires data and identifies the radionuclide emitting the radiation. Unit performance meets or exceeds ANSI N42.34 for radiation detection. The identiFINDER™ has been used by the U.S. Coast Guard, U.S. Navy, NYPD, State of Illinois, several National Guard Civil Support Teams, and the Nevada Test Site.

PERFORMANCE

- The identiFINDER™ is able to rapidly locate, accurately measure and precisely identify sources or contaminations from gamma and neutron radiationuclides.
- The identiFINDER™ is a qualitative instrument that emits an alarm when the doserate exceeds a background threshold.

DEPLOYMENT

- Operates on four AA batteries and requires no other power or utility.
- The unit is 9.25” long by 3.7” wide by 3” thick, weighs 1.25 kg (2.75 lb), and is designed for operation with one hand.
- Usable in temperatures from -15° to 55°C (5° to 131°F) and up to 95% non-condensing humidity.
- The unit is sealed against dust and mild rain.
- Requires no special training for operation.

Vendor Information:

Company: ICx Radiation
Address: 100 Midland Road
Oak Ridge, TN 37830
Phone: 1-865-220-8700 Fax: 1-865-220-7181
Web: http://www.icxt.com

PRODUCT DESCRIPTION

PRODUCT DESCRIPTION: The identiFINDER™ is a hand-held, battery-operated radiation detection and radionuclide identification instrument. It is 9.25" long by 3.7" wide by 3" thick and weighs 1.25 kg (2.75 lb It is designed to detect and identify naturally occurring radioactive materials as well as industrial, medical and special nuclear material radionuclides to provide radiation security to first responders, customs officers, power plant workers, etc., to detect, measure and identify sources of gamma radiation. The identiFINDER™ will alert the user with audible, tactile, or visual alarms that radiation has been detected above a background threshold level. When the user pushes a button, the unit acquires data and identifies the radionuclide emitting the radiation. The identiFINDER™-U model provides the features of the standard identiFINDER™ in an underwater version. The identiFINDER™-X model is a telescopic version of the identiFINDER™-X detector which extends 2.2 m (7.2 ft) away from the operator.

INTENDED USERS: First responders, power plant workers, customs officers, border patrol officers, explosive ordnance disposal (EOD) team members, in-field health physicists.

UTILITY REQUIREMENTS: The identiFINDER™ operates on four AA batteries. No other power or utility is required.

DURABILITY/RUGGEDNESS: The identiFINDER™ was designed to be usable in poor weather and harsh conditions, but should be treated as any other sensitive instrument. A glove is available to reduce the threat of damage if dropped on a hard surface.

APPLICATIONS: The identiFINDER™ can be used to locate the source of radiation in many applications including customs/border security, first response for nuclear or environmental incidents, civil defense, screening by military and police, scrap metal industry, and nuclear medicine.

SOPS, METHODS, USERS MANUALS: Every instrument comes with an operator's manual. When powered up each identiFINDER™ does a self evaluation that includes calibration verification and linearization.

ACCESSORIES/COMPONENTS: The identiFINDER™ is shipped in a rugged case with an external charger, cables, extra battery pack, USB hub and holster included. Data transfer software is also provided.

THROUGHPUT OF PRODUCT: When powered from a cold start, the identiFINDER™ takes about 3 min to do a self evaluation with calibration verification. After that it is ready for use.

PORTABILITY: The identiFINDER™ is designed for hand-held use and operation with one hand. It is 9.25" long by 3.7" wide by 3" thick and weighs 1.25 kg (2.75 lb). Most units contain a tiny (15 nCi) Cesium-137 source for stabilization and calibration. This amount does not require a license. The identiFINDER™ operates on four AA batteries and the expected battery life is 10-12 hr.

OPERATION/MAINTENANCE: The identiFINDER™ will operate in temperatures from -15° to 55°C (5° to 131°F) and up to 95% non-condensing humidity. The unit is sealed against dust and mild rain. No special storage is required.

DECONTAMINATION/REUSE: The identiFINDER™ does not need to be in direct contact with radioactive material to detect radiation; therefore, the unit does not generally need to be decontaminated after use. If decontamination is required, this can be accomplished using a wiping cloth and decontamination solution.

TRAINING: The identiFINDER™ can be successfully operated without training as the instrument leads the user to the correct button to push. An operator's manual is provided with the instrument and training classes are available if desired from the ICx Radiation Service department.

TECHNICAL SUPPORT: Service is performed in the ICx factory in Oak Ridge, TN and can be arranged by calling the customer service group at phone number 865-220-8700 extension 101.

HEALTH/SAFETY -- PERSONNEL AND PUBLIC HEALTH HAZARDS: There is no known health hazard to the operator of this instrument or to the general public.

HEALTH/SAFETY -- ENVIRONMENTAL HAZARDS: No waste is generated.

PERFORMANCE SUMMARY

DETECTION LIMITS/EFFECTIVENESS: The identiFINDER™ is able to rapidly locate, accurately measure and precisely identify sources or contaminations from gamma and neutron radiationuclides. The identiFINDER™ is a qualitative instrument that alarms when the dose rate exceeds a background threshold. Alarms are audible, visual, and tactile.

INTERFERENCES: High intensity radar beams will cause noise in the identiFINDER™ making it hard to perform a proper identification.

COST INFORMATION

Category	Items	Cost
Accessories/Components	identiFINDER™ model id F-NGH	$14,975
Consumables	size AA batteries	
Maintenance	Annual performance verifications	$350
Warranties	Warranty is one (1) year from date of shipment	
Technical Service	Second year warranty extension Second and third year warranty extension	$1,255 $2,655

REFERENCES AND ADDITIONAL INFORMATION

Independent Evaluations/Reviews*:* Evaluations have been performed by the International Atomic Energy Commission and Defense Threat Reduction Agency.

List of Projects/Client References: The identiFINDER™ has been used by the U.S. Coast Guard, U.S. Navy, NYPD, State of Illinois, several National Guard Civil Support Teams, and the Nevada Test Site.

FOR FURTHER INFORMATION ABOUT THIS REPORT AND EPA'S TECHNOLOGY TESTING AND EVALUATION PROGRAM (TTEP), CONTACT:
Shannon Serre
U.S. EPA ORD/NHSRC
(919) 541-3817
serre.shannon@epa.gov
http://www.epa.gov/nhsrc/ttep.html